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CLAIMS

Sub A¹ 5. A video display apparatus, comprising:

a cathode ray tube (10) for displaying an image, having a deflection
5 correction coil (GVC) mounted thereon and coupled to drive amplifier (107);

a digital to analog converter (105) with an output coupled to said drive
amplifier (107);

a memory (104) containing displacement values applicable to spaced
points in a grid of rows (1-13) and columns (A-P), said displacement values for said
10 columns (A-P) generally defining S-shaped correction curves having a maximum
value at two areas of a display screen located substantially between a center axis
(7) and ones of top and bottom edges (2,13) of the display, said S-shaped
correction curves having substantially zero value at areas adjacent to said center
axis (7) and said edges (2,13); and,

15 interpolating means (102) for interpolating intervening values adjacent
ones of said displacement values and having an output coupled to said digital to
analog converter (105) for generating a corrective signal (I2corG) to drive said
deflection correction coil (GVC) for locally adjusting a position of said image such
that banding and pincushion distortion are controlled.

20 6. The video display of claim 5, wherein S-shaped correction is added in
successive steps proceeding from said areas located substantially between said
center axis (7) and said ones of top and bottom edges (2,13), toward said center
axis (7) and toward said edges (2,13), respectively.

25 7. The video display of claim 5, wherein said digital words stored in said
memory (104) represent values derived during alignment of said video display.

30 8. The video display of claim 5, wherein said digital words defining
displacement values stored in said memory represent values formed by interpolation
of displacement values applicable to said grid.

10. The video display of claim 5, wherein said linear interpolating means generates said intervening values adjacent ones of said displacement values during a display period.

12. A method for digitally correcting geometric distortion of an image on a display screen, comprising the steps of:

defining a matrix of spaced adjustment points (A1-P13) on the display screen, in horizontally spaced vertical columns (A-P) of values for local displacement of the image at the adjustment points on the display screen, the values for said columns defining S-shaped vertical correction waveforms having varying slope between adjacent ones of the values;

linearizing the values for at least two areas of the matrix corresponding to a center axis (7) and top and bottom edges (2,13), and applying progressively greater S-correction proceeding from said center axis and from said edges, to areas of the display screen located substantially between said center axis (7) and said edges (2,13);

storing the matrix values in a memory (104);

reading said stored matrix values; and,

locally displacing said image as a function of said stored matrix values for corresponding adjustment points to correct the image on the display screen such that banding and pincushion distortion are controlled.

13. The method of claim 12, further comprising linearly interpolating between adjacent ones of the matrix values in said vertical columns (A-P) to define correction values for scan lines between the adjustment points, and locally displacing the image between the adjustment points as a function of the linearly interpolated correction values.